ACCESSION NR: AP4043009

for interest in the work, and also to A. G. Zhilich for many useful consultations on questions connected with the group-theoretical calculations." Orig. art. has: 4 figures, 7 formulas, and 2 tables.

ASSOCIATION: None

SUBMITTED: 29Jul63 ENCL: 00

SUB CODE: OP NR REF SOV: 007 OTHER: 009

3/3

L 11342-67

ACC NR: AP6029977 SOURCE CODE: UR/0413/66/000/015/0191/0191

25

INVENTOR: Makarov, V. P.; Baranov, V. I.

ORG: none

TITLE: Inductive angulate-oscillations transducer. Class 42, No. 183970

SOURCE: Izobret prom obraz tov zn, no. 15, 1966, 191

TOPIC TAGS: oscillograph, recording device, test instrumentation, AERODYNAMIC EFFECT, AIRCRAFT

ABSTRACT: This Author Certificate introduces an inductive angular-oscillation transducer designed to measure and record on an oscillogram the angular oscillations produced in aircraft parts and units. It consists of a ring with two inductance coils inserted into a housing, and a annular steel core with a bracket. To expand the range of angular-oscillation measurement and recording (up to 80°), its solenoid and core are designed as incomplete (up to 240°) concentric rings.

SUB CODE: 14, 01/ SUBM DATE: 26Dec64/

UDC: 66.084.534.29

Card 1/1

MAKAROV, V.P.; KOVROV, B.G.

Accumulation of methemoglobin in irradiated erythrocytes. Vop. biofiz., biokhim. i pat. erit. no.2:125-128 '61. (MIRA 16:3)

1. Institut fiziki Sibirskogo otdeleniya AN SSSR, laboratoriya biofiziki, Krasnoyarsk.
(ERYTHROCYTES) (RADIATION—PHYSIOLOGICAL EFFECT)
(HEMOGLOBIN)

MAKAROV, V.P.; KHRIPACH, N.B.

Changes in the state of irradiated and nonirradiated erythrocytes stored under different temperatures. Vop.biofiz.,biokhim.i pat. orit. no.2:129-135 '61. (MIRA 16:3)
(ERYTHROCYTES) (RADIATION—PHYSIOLOGICAL EFFECT)
(TEMPERATURE—PHYSIOLOGICAL EFFECT)

MAKAROV, V.P.; KHRIPACH, N.B.

Effect of blood plasma and the gaseous medium on the development of radiation aftereffects in preserved erythrocytes. Vop.biofiz., biokhim.i pat.erit. no.2:136-145 '61. (MIRA 16:3)
(ERYTHROCYTES) (RADIATION—PHYSIOLOGICAL EFFECT)
(BLOOD, GASES IN)

KOVROV, B.G.; MAKAROV, V.P.

Decrease in the peroxidase activity of human hemoglobin in the erythrocytes with reduced osmotic resistance. Vop.biofiz.,biokhim.i pat.erit. no.2:214-219 '61. (MIRA 16:3)

1. Institut fiziki Sibirskogo otdeleniya AN SSSR, Krasnoyarsk.
(HEMOGLOBIN) (PEROXIDASES) (ERYTHROCYTES)
(OSMOSIS)

MAKAROV, V.P.; MIKAYELYAN, A.L.; YEVNINA, I.I.

Changes in erythrocyte resistance in artificial blood circulation. Vop.biofiz.,biokhim.i pat.crit. no.2:298-305 '61. (MIRA 16:3)

1. Institut fiziki Sibirskogo otdeleniya AN SSSR (for Makarov).
2. Institut eksperimental'noy biologii i meditsiny Sibirskogo otdeleniya AN SSSR (for Mikayelyan, Yevnina).
(ERYTHRCYTES) (BLOOD—CIRCULATION, ARTIFICIAL)

MAKAROV, V.P., inzh.; SARYCHEV, A.A., inzh.

Introducing the VK4 hard alloy into industrial production.
Mashinostroitel' no.12:19 D '59. (MIRA 13:3)
(Metal cutting tools)

Makarov, V.S.

KISELEV, V.I.; SAVIN, G.N., professor, doktor, retsenzent; MAKAROV, V.S., professor, doktor, retsenzent; MATVEYEV, M.A., redaktor; [illegible], M.L., redaktor; VAYNSHTEYN, Ye.B., tekhnicheskiy redaktor

[Hoists for deep mines] Pod"emnye ustanovki dlia glubokikh shakht. Moskva, Gos. nauchno-tekhn. izd-vo lit-ry po chernoi i tsvetnoi metallurgii, 1954. 227 p. [Microfilm] (MLRA 7:10)

1. Vitse-president AN USSR (for Savin)
(Mine hoisting)

MAK'AROV, V.S.

PHASE I BOOK EXPLOITATION SOV/4252

Akademiya nauk SSSR. Sovet po izucheniyu proizvoditel'nykh sil

Chernaya metallurgiya (Ferrous Metallurgy) Moscow, Izd-vo AN SSSR, 1960. 273 p. (Series: Razvitiye proizvoditel'nykh sil Vostochnoy Sibiri) Errata slip inserted. 2,000 copies printed.

Ed.: G.I. Lyudogovskiy, Candidate of Technical Sciences; Ed. of Publishing House: G.M. Makovskiy; Tech. Ed.: Ye.V. Makuni; Editorial Board of this vol.: G.S. Dvorin, N.V. Ovchinnikskiy, Candidate of Technical Sciences, A.N. Pokhvisnev, Doctor of Technical Sciences, and A.A. Fedotov, Engineer; Editorial Board of Series: I.P. Bardin, (Deceased), Academician, Academy of Sciences USSR (Chief. Ed.); M.A. Lavrent'yev, Academician, Academy of Sciences USSR; S.I. Vol'fkovich, Academician, Academy of Sciences USSR; V.I. Dikushin, Academician, Academy of Sciences USSR; V.S. Nemchinov, Academician, Academy of Sciences USSR; V.I. Veyts, Corresponding Member, Academy of Sciences USSR; G.D. Levitskiy, Corresponding Member, Academy of Sciences USSR; N.N. Nekrasov, Corresponding Member, Academy of Sciences USSR; L.B. Pustovalov, Corresponding Member, Academy of Sciences USSR; T.S. Khachaturov, Corresponding Member,

Academy of Sciences USSR; N.V. Rostovtsev, Academician, All-Union Academy of Agricultural Sciences; A.N. Popov, Member, Academy of Building and Architecture USSR; L. Ye. Grafov, Deputy Chairman, State Planning Committee of the Council of Ministers RSFSR; A.D. Gashev, Member, State Planning Committee of the Council of Ministers RSFSR; A.Ye. Probst, Professor; V.F. Vasyutin, Professor; V.A. Krotov, Professor; P.V. Vasil'yev, Doctor of Economics; G.I. Lyudogovskiy, Candidate of Technical Sciences; P.A. Letunov, Candidate of Geology and Mineralogy; and M.G. Shkol'nikov, Candidate of Economics.

PURPOSE: This collection of papers is intended to furnish information on industrial resources in Eastern Siberia and to provide a basis for future developmental planning in the field of ferrous metallurgy.

COVERAGE: The collection is a summary of the proceedings of the Ferrous Metallurgy Section of the Joint Conference of Representatives of the Academy of Sciences USSR, the State Planning Commission, and the Council of Ministers RSFSR on the Development of the Industrial Resources of Eastern Siberia. The collection deals with four main areas of development in Eastern Siberia: 1) Mineral resources, 2) the fuel base, 3) prospects for the development of ferrous metallurgy, and 4) problems in the development of electrometallurgy. A list of the 112 members of the Section with their affiliations is given in the Appendix. References accompany several of the articles.

Card 7/8

MAKAROV, V. S.

S. N. Machul'skiy. Pamyatka po bor'be s glistnymi zabolevaniyami sel'skokhozyaystvennykh zhivotnykh (Handbook on the Fight Against Helminthis Diseases in Farm Animals). Ulan Ude. Burmongiz. 1951. 64 pages with illustrations.

U-5235

MACHUL'SKIY, S.N.; MAKAROV, V.S.

New parasite of sables. Trudy VNIO no.13:214-216 '53. (MLRA 7:5)
(Nematoda) (Parasites--Sables)

GESHTOVT, Yu.N., aspirant; MAKAROV, V.S.; YEPANESHENKOV, I.B.; DAYNICHENKO, G.S., aspirant; GRYAZEV, I.I.

Economic effectiveness of the use of herbicides. Zashch. rast. ot vred. i bol. 9 no.2:9-11, 32 '64.
(MIRA 17:6)

1. Kishinevskiy sel'skokhozyaystvennyy institut (for Daynichenko). 2. Nachal'nik Ul'yanovskoy stantsii zashchity rasteniy (for Grazev). 3. Severnyy filial Kazakhskogo instituta zashchity rasteniy, Kokchetav (for Geshtovt). 4. Starshiy agronom po zashchite rasteniy Nerchinskogo proizvodstvennogo upravleniya, Chitinskaya obl. (for Makrov). 5. Glavnyy agronom po zashchite rasteniy Gorodetskogo proizvodstvennogo upravleniya, Gor'kovskaya obl. (for Yepaneshenkov).

SKRITSKIY, V.Ya., inzh.; MAKAROV, V.S., inzh.

Multiposition hydraulic distributor for automatic control of four hydraulic cylinders. Mashinostroenie no.4:9-10 Jl-Ag '63. (MIRA 17:2)

MAKAROV, V.S., aspirant

Some data on the new preparation "bioplastik." Akt.vop.perel.krovi no.6:17-20 '58. (MIRA 13:1)

1. Kafedra obshchey khirurgii 1-go Leningradskogo meditsinskogo instituta (zav. kafedroy - chlen-korrespondent AMN, prof. A.N. Filatov) i Laboratoriya po izucheniyu sukhikh preparatov krovi i krovozameniteley Leningradskogo nauchno-issledovatel'skogo ordena Trudovogo Krasnogo znameni instituta perelivaniya krovi (zav. laboratoriyey - prof. L.G. Bogomolova).

(HEMOSTATICS)

MAKAROV, V. S., CAND MED SCI, "ON THE POSSIBILITY OF the use of BIOPLASTICS [redacted] FOR FILLING THE PLURAL CAVITY FOLLOWING PNEUMONECTOMY." LENINGRAD, 1960. (LENINGRAD STATE ORDER OF LENIN INSTITUTE FOR the ADVANCED TRAINING OF PHYSICIANS IM S. M. KIROV). (KL, 2-61, 218).

MAKAROV, V.S.

Possibility of utilizing bioplast for filling pleural cavities following pneumonectomy. Vest. khir. 85 no. 7:49-59 Je '60. (MIRA 14:1)

(LUNGS—SURGERY)

MAKAROV V.S.

A class of partitions of Lobachevskii space. Dokl. AN SSSR 161 no.2:277-278 Mr '65. (MIRA 18:3)

1. Matematicheskiy institut im. V.A.Steklova AN SSSR. Submitted October 13, 1964.

MAKAROV, V...

МАКАРОВ, В. Т.

3-58-2-27/33

AUTHORS: Kelychi, Ziya, Dotsent, Rector of Tirana State University
Makarov, V.T., Professor, Doctor of Biological Sciences

TITLE: The University of People's Albania (Universitet narodnoy Albanii)

PERIODICAL: Vestnik Vysshey Shkoly, 1958, # 2, pp 31 - 82 (USSR)

ABSTRACT: After pointing out the recent cultural achievements of Albania, the article gives particulars on the Tirana State University which was opened on 1 September 1957.

The country's 5 institutes (pedagogical, economic, polytechnical, medical and scientific) served as a basis for the establishment of the Tirana University with its 6 faculties and 15 specialties.

The Historical-Philological Faculties training specialists in history, Albanian language and literature as well as the Russian language. Attached to the faculty is a Scientific-Research Institute on Albanian History, Language and Literature and a Museum of Archeology and Ethnography.

The Economic Faculty (for planning the national economy, economics of indutry, finances, statistics and recording, geography) is training specialists in economics and finance.

The Juridical Faculty consists of chairs of state theory and history and law, criminal law, civil law and international law.

Card 1/3

One of the basic faculties is in natural sciences with its two departments: the physico-mathematical and bio-chemical. The faculty has a Museum of Natural Science.

The Engineering Faculty has 4 departments - electro-engineering, mechanical, construction and geological. Attached to it is a Museum of Geology.

The chairs of the Medical Faculty have well equipped clinics and laboratories.

The University has a library of over 300,000 national and foreign books, journals, etc. The present number of students is 4,600 in the day departments, 884 at the evening courses and 962 in correspondence. In 1957, the number of students admitted to the 1st course was 450. It is planned that this number will be increased to 830 in 1962. The number of instructors will also increase. At present, there are 220 instructors, including 25 holding scientific degrees, 30 scientific workers and 115 laboratory workers. The number of professors and instructors will be doubled within 5 years.

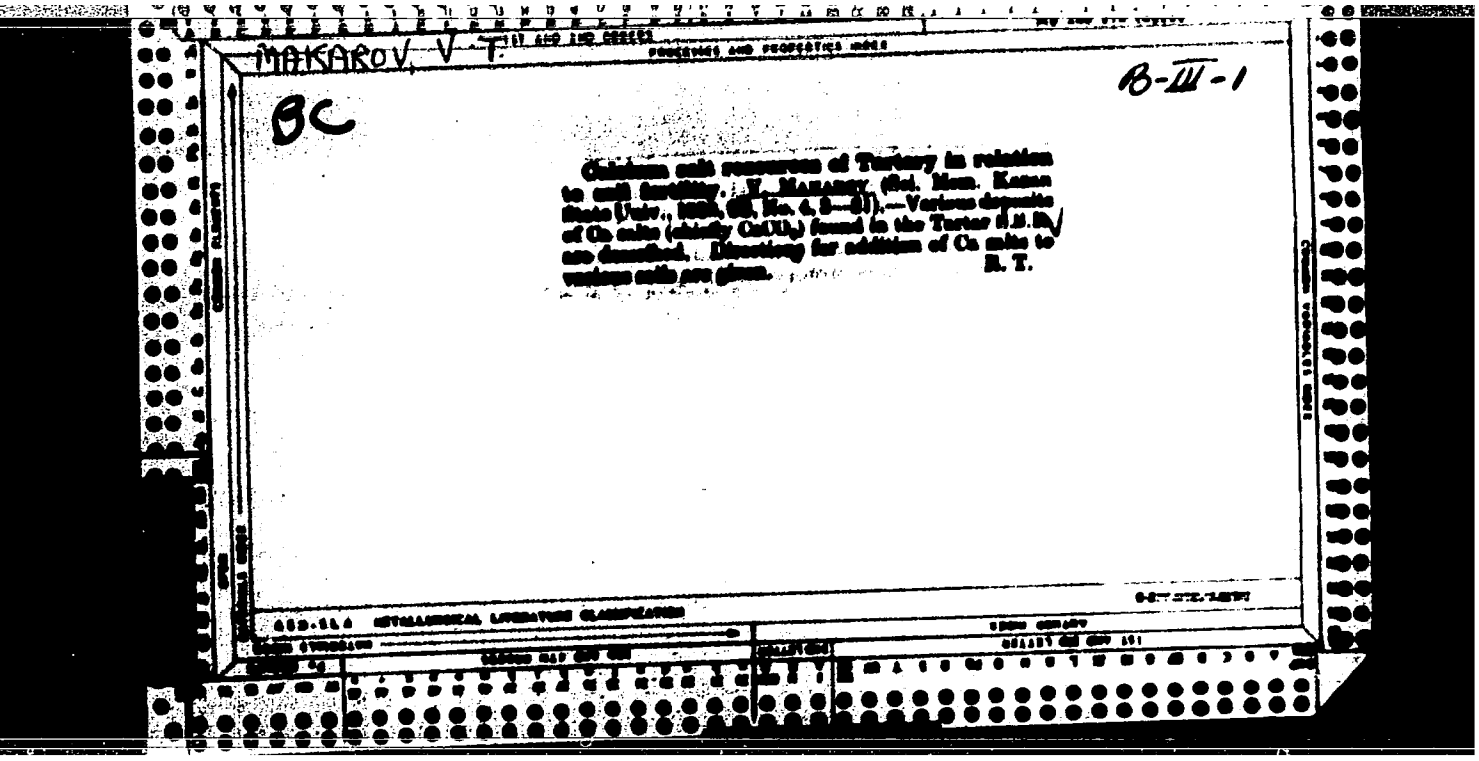
The chairs are working on the development of a number of problems of scientific and economic importance, in particular, the natural resources of Albania and their rational utilization, increase of machine productivity, construction, power

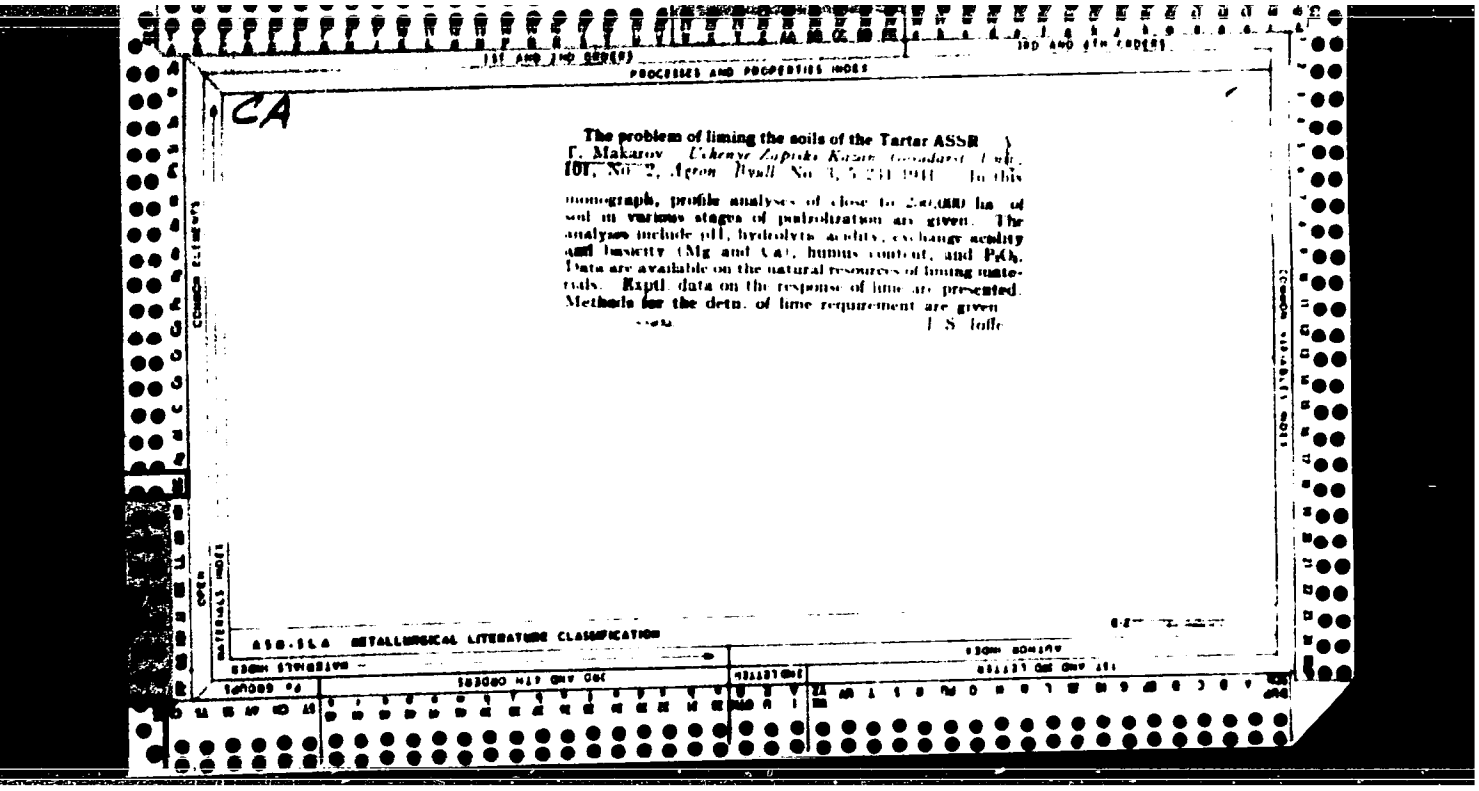
stations, introduction of productional methods for new kinds of production, clinical study, methods of treatment and prevention of some diseases, behavior of solids in a field of radiation, and behavior of gasses in electromagnetic fields. Questions of history, language, literature, state and law, and economics of Albania are also being profoundly studied.

ASSOCIATION: Tiranskiy gosudarstvennyy universitet (Tirana State University)

AVAILABLE: Library of Congress

Card 3/3





CA

The problem of liming the soils of the Tartar ASSR

P. Makarov *Uchenye Zapiski Kazan. Gosudarst. Univ.*, 101, No. 2, *Agron. Byull.* No. 3, 5-21 (1941). In this monograph, profile analyses of close to 2,000 ha. of soil in various stages of podzolization are given. The analyses include pH, hydrolyte acidity, exchange acidity and basicity (Mg and Ca), humus content, and P_2O_5. Data are available on the natural resources of liming materials. Exptl. data on the response of lime are presented. Methods for the detn. of lime requirement are given.

J. S. Joffe

MAKAROV, V.

20029 MAKAROV, V. Nash metod povysheniya effektivnosti otkorma svineY. /Kontrol'no opyt. stantsiya po otkormer svineY Vsesoyuz. nauch.-is-sled. in-ta myasnoy prom-sti/. Myas industriya SSSR, 1949, No. 3, s. 69-70.

SO: LETOPIS ZHURNAL STATEY, Vol. 27, Moskva, 1949.

1. MAKAROV, V. T., Prof.

2. USSR (600)

4. Tomsk Province - Clover

7. Producing high yields of clover seed in Tomsk Province. Trudy Tomsk. un. 114 1951.

9. Monthly List of Russian Accessions, Library of Congress, March 1953. Unclassified.

1. Makarov, V.T. (Prof.)

2. USSR (600)

4. ASINO DISTRICT - AGRICULTURE

7. Work results of the expedition of Tomsk University for helping collective farms of Asino District (Tomsk Province) to adopt grassland agriculture. Trudy Tomsk. un. 114, 1951.

9. Monthly List of Russian Accessions. Library of Congress, March 1953 Unclassified

1. MAKAROV, V. T.

2. USSR (600)

4. Agriculture

7. Timber and hunting economy of Tomsk oblast. Collected articles. Tomsk, Izd. Gos. Universiteta, 1952.

9. **Monthly List of Russian Accessions**, Library of Congress, January 1953. Unclassified.

REPIN, I. F.: MAKAROV, V. (Reviewed by L. M. Raskin)

Potatoes

Books of innovators ("How we achieved a large potato harvest," I. F. Repin, and "How we Obtained a large Harvest," -V. Makarov.) - Reviewed by L. M. Raskin
Sad i og. No. 3, 1952.

Monthly List of Russian Accessions, Library of Congress, May 1952 UNCLASSIFIED.

MAKAROV, V.T.

Effect of cultivated plants on the fertility of turf-Podzolic soils under different conditions of cultivation. Vest.Mosk.un. Ser.biol., pochv., geol., geog. 14 no.4:41-51 '59. (MIRA 13:6)

1. Kafedra zemledeliya Moskovskogo universiteta.
(Tillage) (Crops and soils)

MAKAROV, V.T.

In memory of Professor D.G.Vilenskii. Nauch. dokl. vys. shkoly; biol. nauki no.3:220 '60. (MIRA 13:8)
(Vilenskii, Dmitrii Germogenovich, 1892-1960)

VILENSKIY, D.G., prof., red. [deceased]; DOBROVOL'SKIY, B.V., prof., red.; MAKAROV, V.T., prof., red.

[Studies of natural conditions relating to agriculture in the Meshchera Lowland] Issledovanie prirodnykh uslovii sel'skogo khoziaistva Meshcherskoi nizmennosti. Pod red. D.G.Vilenskogo, B.V.Dobrovol'skogo i V.T.Makarova. Moskva, Izd-vo Mosk.univ. Vol.1. 1961. 299 p. (MIRA 14:4)

1. Oreko-Meshcherskaya kompleksnaya ekspeditsiya.
(Meshchera--Soils)

MAKAROV, V.T.; MILOSLAVSKAYA, G.M.

Dynamics of organic matter in turf-Podzolic soils during the period marked by the aftereffect of different plowing methods. Nauch. dokl. vys. shkoly; biol. nauki no. 1:207-212 '61. (MIRA 14:2)

1. Rekomendovana kafedroy zemledeliya Moskovskogo gosudarstvennogo universiteta im. M.V. Lomonosova.
(HUMUS) (PODZOL) (PLOWING)

MAKAROV, V.T., prof., doktor sel'skokhoz.nauk; LEBEDEVA, G.F., kand.biolog.-nauk

Cultivation characteristics of forage cabbage on peat-bog soils.
Zhivotnovodstvo 23 no.2:20-22 F '61. (MIRA 15:11)
(Cabbage) (Peat soils)

MAKAROV, V.T., doktor sel'skokhozyaystvennykh nauk, prof.

Biological, organizational and economic bases of the rotation of crops. Biol.v shkole no.4:74-78 Jl-Ag '62. (MIRA 15:12)

1. Moskovskiy gosudarstvennyy universitet imeni Lomonosova.
(Rotation of crops)

KESHEVA, A.T.; MAKAROV, V.T., doktor, prof., rukovoditel' raboty

Some means of improving the yield of winter wheat in the Kabardino-Balkar A.S.S.R. Uch. zap. Kab.-Balk. gos. un. no.12: 121-129 '62. (MIRA 16:6)

(Kabardino-Balkar A.S.S.R.—Wheat)

REMEZOV, Nil Petrovich, prof.; MAKAROV, Vasiliy Timofeyevich, prof.; POMALEN'KAYA, O.T., red.; GEORGIYEVA, G.I., tekhn. red.

[Soil science with the fundamentals of agriculture] Pochvovedenie s osnovami zemledeliia. Moskva, Izd-vo Mosk. univ. 1963. 475 p. (MIRA 16:7)
(Soil science) (Agriculture)

MAKAROV, V.T.; YURIN, P.V.; SPIRIDONOV, Yu.Ya.

New methods of cultivating corn in turf-Podzolic [illegible]. Vest. Mosk.un.Ser.6: Biol., pochv. 19 no.1:61-7[illegible] Ja-F '64.

1. Kafedra zemledeliya Moskovskogo universiteta. (MIRA 17:4)

MAKAROV, V.V.

MAKAROV, V.V. "Investigation of heat Exchange in the Expansion Process of an Engine with Forced Ignition." Min Higher Education USSR. Tomsk Order of Labor Red Banner Polytechnic Inst imeni S.M. Kirov. Tomsk, 1956. (Dissertation for the Degree of Candidate in Technical Science)

So: KNizhnaya Letopis', No. 18, 1956,

BROUNSHTEYN, B.I.; MAKAROV, V.V.

Conditions of cavitation in pulse columns. Trudy VNIIneftekhim no.5:195-205 '62. (MIRA 15:7)

(Extraction (Chemistry))
(Cavitation)

MAKAROV, V.V., kand.tekhn.nauk

Reducing the amount of labor expended in maintaining road machinery. Avt.dor. 23 no.3:14-15 Mr '60. (MIRA 13:6)
(Road machinery--Maintenance and repair)

MAKAROV, Valentin Vasil'yevich; ROSHCHINA, L., red.; MOSKVINA, R., tekhn. red.

[Nigeria; a sketch of the economy]Nigeriia; ekonomicheskii ocherk. Moskva, Sotsekgiz, 1962. 142 p. (MIRA 16:1)
(Nigeria--Economic conditions)

BOLGOV, A.T., kand. tekhn. nauk, dotsent; MAKAROV, [illegible], kand. tekhn. nauk, dotsent; MINAYEV, A.N., kand. tekhn. nauk, dotsent

Criterional relation of damping coefficients of a motor [illegible] parameters of the rotating system. Izv.vys.ucheb.zav.;mash. [illegible] 46-51 '64. (MIRA [illegible])

1. Altayskiy politekhnicheskiy institut.

BUZYKIN, Yuriy Il'ich; MAKAROV, V.V., red.; PONOMAREVA, A.A., tekhn. red.

[West-European integration in the third stage of the general crisis of capitalism] Zapadnoevropeiskaia integratsiia na tret'em etape obshchego krizisa kapitalizma. Moskva, Ekonomizdat, 1963. 142 p. (MIRA 16:7)
(European Economic Community)

MAKAROV, V. V.

"Controlled Feeding and Controlled Growth of Swine as a Mass Method for Improving Breeding Herds." Cand Ag Sci, All-Union Sci-Res Inst of Animal Husbandry, Moscow, 1954. (KL, No 7, Feb 55)

SO: Sum. No. 731, 20 Aug 55-Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (14)

MAKAROV, V. V.

USSR/Biology - Beaver habits

Card 1/1 : Pub. 86 - 23/36

Author : Makarov, V. V.

Title : On the biology of the beaver

Periodical : Priroda 43/8, 112-114, Aug 1954

Abstract : The article recounts how beavers were set free near the Oka River and their habits are being observed. It was noted that they at first lived in burrows but are now building little huts, along with their other activities in building dams and felling trees. Illustrations.

Institution : Moscow State Pedagogical Institute imeni V.P. Potemkin.

Submitted : ...

MAKAROV, V.V.; D'YAKOVA, K.G.

Catching desmans in the Khoper Preserve in 1956-1957. Trudy Khop.gos.zap. no.3:5-14 '59. (MIRA 16:1)
(Khoper Preserve—Desmans)

NEYSHTADT, Mark Il'ich; PRIDANTSEVA, A.M., red.; MAKAROV, V.V., red.; TSYPPO, R.V., tekhn. red.

[A guide for plants of the central zone of the European part of the U.S.S.R.] Opredelitel' rastenii srednei polosy Evropeiskoi chasti SSSR; posobie dlia studentov pedagogicheskikh institutov i uchitelei. Izd.6., perer. i dop. Moskva, Uchpedgiz, 1963. 639 p. (MIRA 17:2)

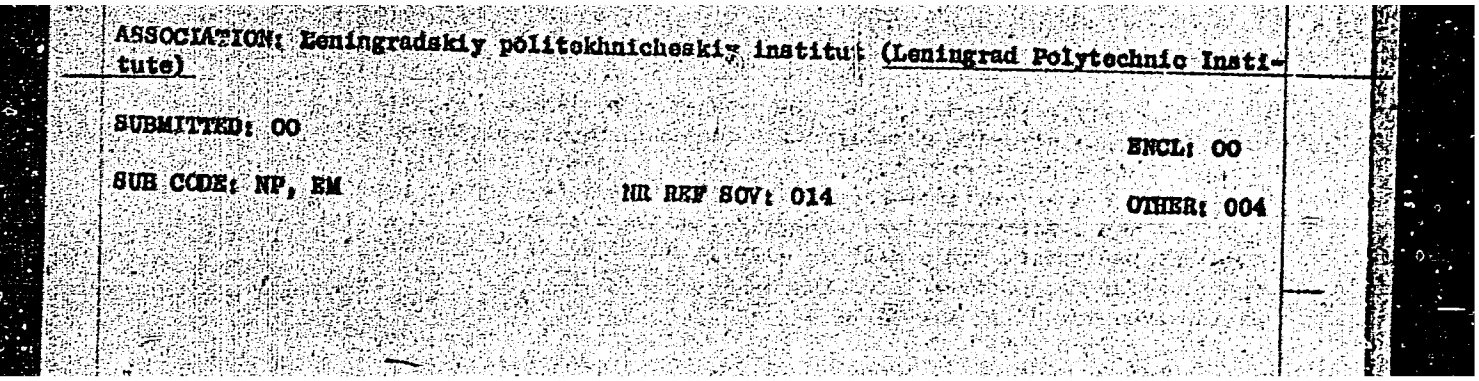
MAKAROV, V.V.

Some characteristics of the biology of mint flowering. Biul. Glav. bot. sada no.53:61-66 '64. (MIRA 17:6)

1. Glavnyy botanicheskiy sad Akademii nauk SSSR.

before dying slowly away. It was found that a cold target emitted a greater proportion of low energy secondary ions after long continued bombardment than when it was fresh. The results are discussed in terms of diffusion of adsorbed ions to the surface of the target and the influence of adsorbed ions on the target work function. "The authors are deeply grateful to M.A. Yermeyev for his interest and valuable remarks." Orig.art.has: 7 figures.

ASSOCIATION: Leningradskiy politekhnicheskiy institut [illegible]



ASSOCIATION: Leningradskiy politekhnicheskiy institut (Leningrad Polytechnic Institute)

SUBMITTED: 00 ENCL: 00

SUB CODE: NP, EM NR REF SOV: 014 OTHER: 004

ACC NR: AP6015489 SOURCE CODE: UR/0181/66/008/005/1602/1607

AUTHOR: Makarov, V. V.; Petrov, N. N.

ORG: Leningrad Polytechnic Institute im. M. I. Kalinina (Leningradskiy politekhnicheskiy institut)

TITLE: Effect of ion bombardment on the cathodoluminescence of SiC

SOURCE: Fizika tverdogo tela, v. 8, no. 5, 1966, 1602-1607

TOPIC TAGS: cathodoluminescence, silicon semiconductor, silicon carbide, ion bombardment

ABSTRACT: Cathodoluminescence spectra of 6H SiC crystals were examined during bombardment by K^+ with energies in the 2 to 11 kev range. The ions of K^+ were produced by thermal dissociation of K_2CO_3. Bombardment and heating up to 1000°C produced a considerable change in the spectral composition of the radiation in the photon energy range of 2.64 to 2.45 ev. In this range, a system of narrow intense lines and bands with a halfwidth of 0.002 to 0.1 ev was observed. Narrow lines also appeared in the 2.86 to 2.69 and 2.52 to 2.2 ev ranges, even though ion bombardment is not a necessary condition for their appearance. The cathodoluminescence spectra of opposite crystal sides differ in these photon energy intervals. The emergence of a green band after bombardment of the order of 10^{17} particles per cm^2 and subsequent heating to 1200°C may be

Card 1/2

explained by the presence of Al-N donor-acceptor pairs. The authors are grateful to M. B. Reyfman for making SiC single crystals available for the experiments, to Yu. A. Vodakov for making specimens available with a known concentration of impurities, to M. A. Yeremeyev for his interest in the work and his valuable suggestions, and to V. I. Sokolov for the useful discussions. Orig. art. has: 5 figures.

SUB CODE: 20/ SUBM DATE: 10Jul65/ ORIG REF: 006/ OTH REF: 010

Card 2/2

L 00581-66

ACCESSION NR: AP5021609 UR/0286/65/000/013/0078/0078

AUTHOR: Bolgov, A. F.; Makarov, V. V.

TITLE: Device for exciting torsional sinusoidal oscillations. Class 42, No. 172521

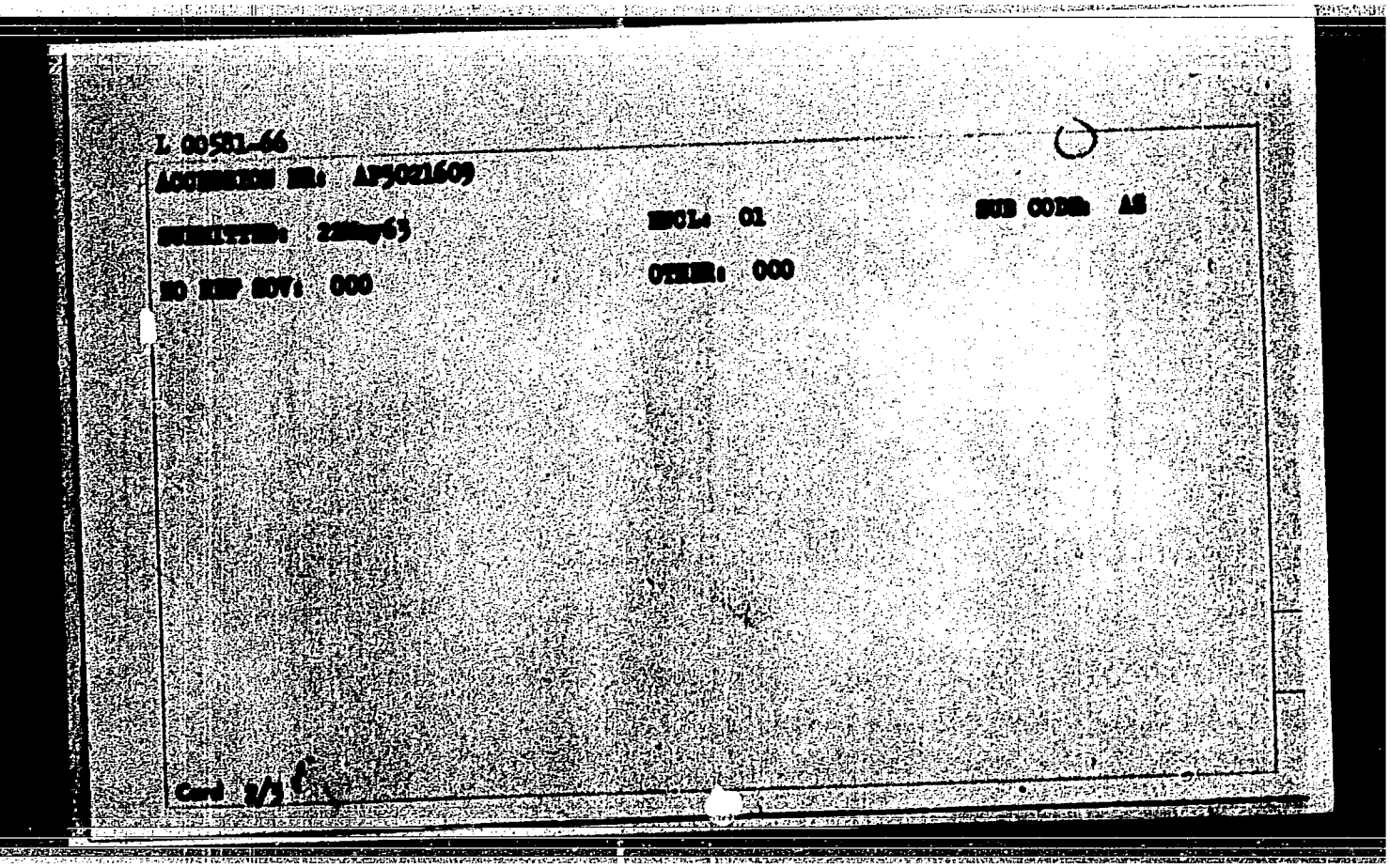
SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 13, 1965, 78

TOPIC TAGS: torsional vibration

ABSTRACT: This Author Certificate presents a device for exciting sinusoidal oscillations in a system having a rotary shaft. The device contains an electric motor coupled to one end of the rotary shaft to rotate it. To broaden the limits of oscillation control in frequency and amplitude while preserving the sinusoidal form, the device is provided with a three-stage gyroscope (see Fig. 1 on the Enclosure). One of the gyroscope frame axes is coupled mechanically to the other end of the rotary shaft of the system. The second frame is provided with an independent electric drive to rotate it and is coupled kinematically, e.g., by a system of gears, to the axis of the inner third frame on which the gyroscope rotor is mounted. Orig. art. has: 1 diagram.

ASSOCIATION: none

Card 1/3



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ACCESSION NR: AP5001609 01

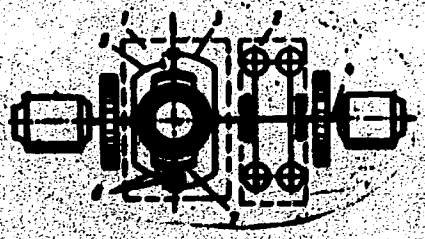


Fig. 1. 1- gyroscope; 2- investigated system; 3- first frame; 4- shaft; 5- second frame; 6- gear system; 7- third frame

Card 3/3

MAKAROV, V.V.

Extend the rights of enterprises, strengthen business accounting in drilling; a topic for discussion. Neft. khoz. 43 no.3:9-11 Mr '65. (MIRA 18:6)

AID P - 2731

Subject : USSR/Mining

Card 1/1 Pub. 78 - 1/22

Author : Makarov, V. V.

Title : Work efficiency in oil recovery and ways to improve it

Periodical : Neft. khoz., 33, 7, 1-4, Jl 1955

Abstract : Data of oil recovery in 1954 are compared with previous years. The application of new methods of production, increased mechanization, improved management, drilling of new wells, extended secondary recovery, etc. have resulted in an increased production and an optimistic outlook for the future.

Institution : None

Submitted : No date

MAKAROV, V.V.

Improving labor productivity planning in the oil field industry. Neft. khoz. 39 no.8:5-9 Ag '61. (MIRA 14:7)
(Oil fields—Production methods)

MAKAROV, V. V.

Applying norms in planning labor productivity. Sots. trud 7 no.5:80-82 My '62. (MIRA 15:5)
(Oil well drilling--Production standards)

L 36323-66 EWT(1)/EWT(m)/T/EWP(e)/EWP(t)/ETI IJP(c) AT/WH/JD/JG

ACC NR: AP6015793 (A,N) SOURCE CODE: UR/0048/66/030/005/0890/0891

AUTHOR: Makarov, V. V.; Petrov, N. N.

ORG: Leningrad Polythechnic Institute im. M.I.Kalinin (Leningradskiy politekhnicheskiy institut)

TITLE: Penetration of 2 to 11 keV lithium ions into silicon carbide single crystals /Report, Twelfth All-Union Conference on the Physical Bases of Cathode Electronics held in Leningrad 22-26 October 1965/

SOURCE: AN SSSR. Izvestiya. Seriya fizicheskaya, v. 30, no. 5, 1966, 890-891

TOPIC TAGS: cathodoluminescence, ion beam, radiation damage, lithium, silicon carbide, single crystal

ABSTRACT: The cathodoluminescence of SiC single crystals (α modification) previously bombarded with 2-11 keV Li^+ ions has been investigated in order to determine the penetration depth of the ions. Plates cut parallel to the (0001) faces were bombarded with monoenergetic Li^+ ions (dose, 10^{16} ions/cm^2), and the intensity of the 5200 Å cathodoluminescence of each plate was subsequently determined at 77° K as a function of the energy of the exciting electrons. Luminescence was observed only when the electron energy exceeded a threshold value which depended on the energy of the ions with which the crystal had previously been bombarded. It was assumed that the penetration depth of the bombarding ions was equal to that of electrons having the thresh-

Card 1/2

L 36323-66

ACC NR: AP6015793

old energy. To convert the cathodoluminescence thresholds to ion penetration depths, it is necessary to know the penertration depths of electrons of different energies. As electron penetration data are lacking for SiC, the data of A.Ya.Vyatskin and A.F. Maldhov (Zh. tekhn. fiz., 28, 740 (1958)) for Si were used instead. The penetration depth in Å of a Li^+ ion with an energy of E keV was found to be $350E^{0.77}$. These penetration depths are several times greater than those found by McCargo, F.Brown, and A.I.Davies (Canad. J.Chem. 41, 2309 (1963)) for penetration of Na^+ ions into Al, and are very close to those found by J.Young (J.Appl. Phys., 27, 1 (1956)) for penetration of H^+ and He^+ ions into Al. The authors thank M.A.Yeremeyev for valuable discussions and M.B.Reyfman for providing the SiC crystals. Orig. art. has: 2 figures.

SUB CODE: 20/ SUBM DATE: 00/ ORIG REF: 004/ OTH REF: 004

Card 2/2

ACC NR: AP6036997 (A,N) SOURCE CODE: UR/0181/66/008/011/3393/3394

AUTHOR: Makarov, V. V.; Petrov, N. N.

ORG: Leningrad Polytechnic Institute im. M. I. Kalinin (Leningradskiy politekhnicheskiy institut)

TITLE: Cathodoluminescence of single crystals of silicon carbide irradiated with fast electrons

SOURCE: Fizika tverdogo tela, v. 8, no. 11, 1966, 3393-3394

TOPIC TAGS: silicon carbide, electron bombardment, ion bombardment, cathodoluminescence, luminescence spectrum, crystal defect, exciton, electron recombination

ABSTRACT: The authors investigated the influence of electron bombardment with energy 2 Mev on cathodoluminescence of single-crystal SiC (n-type samples, 10^{17} - 10^{19} cm^{-3} nitrogen atoms, and p-type 10^{18} - 10^{19} cm^{-3} boron or aluminum atoms). The sample thickness was 0.2 - 1 mm and the irradiation dose was 10^{15} - 10^{16} el/cm^2. The luminescence was excited with an electron beam of energy up to 10 kev at a current density 10^{-5} - 10^{-4} amp/cm^2. The measurements were made with samples cooled to 77K. The observed spectrum turned out to be insensitive to subsequent heating and etching, indicating that the effect is produced in the entire volume of the crystal. A similar spectrum was obtained also when the crystals were bombarded with positive ions (Li^+, K^+, N_2^+, H^+, Ar^+), apart from differences in the fine structure. The results, in conjunction with earlier data by the authors (FTT v. 8, 1602, 1966) indicate that

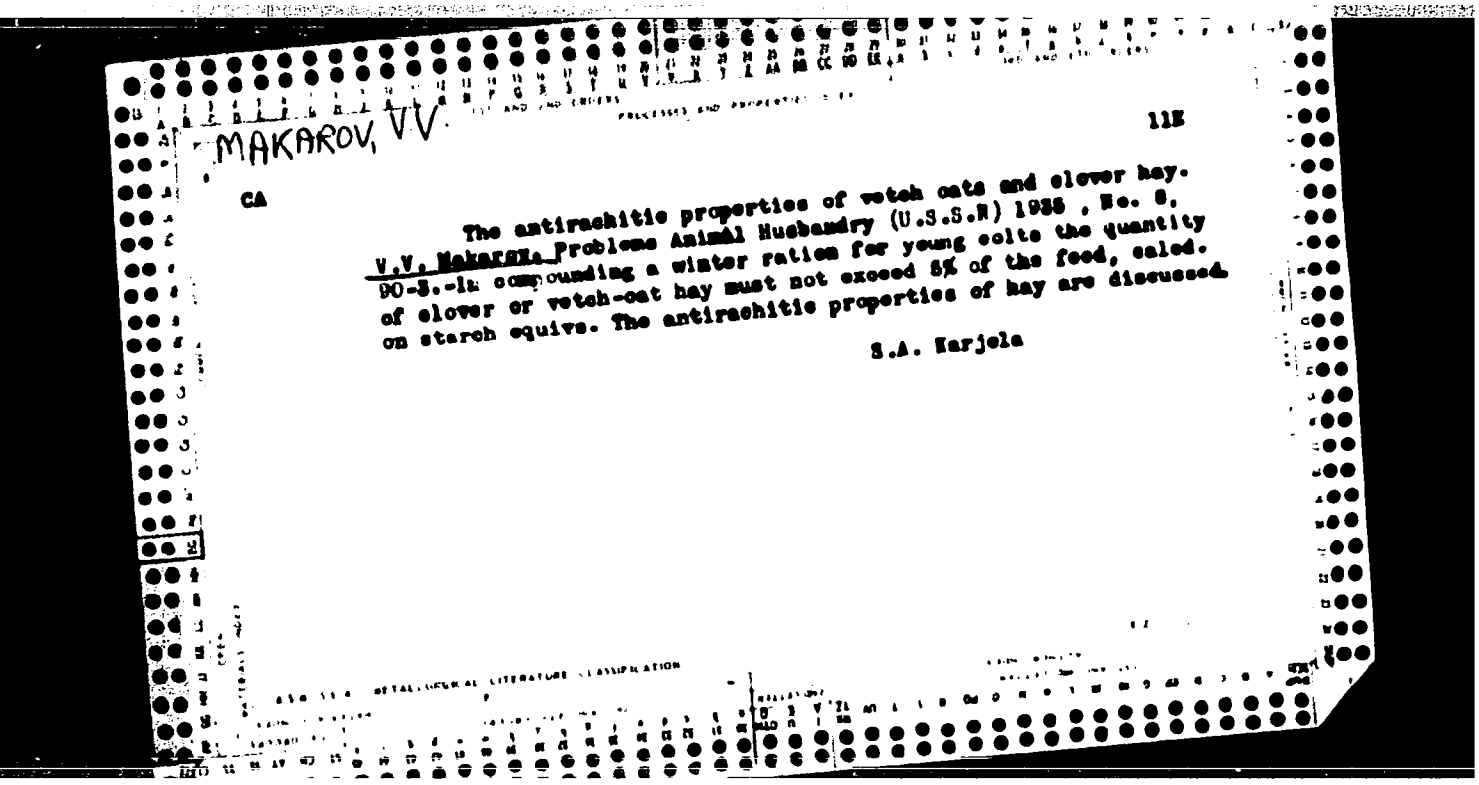
Card 1/2

ACC NR: AP6036997

for both electron and ion bombardment the cathodoluminescence spectrum is due to carrier (or exciton) recombination on the crystal-structure defects. The activation energy for the quenching of the green band in the spectrum was found to be 0.09 - 0.11 ev, indicating that the glow is due to transitions of the electrons from the nitrogen levels to the acceptor levels resulting from the irradiation, with probable location 0.2 - 0.4 ev above the top of the valence band. The results are compared with those obtained by others. The authors thank M. B. Reyfman for supplying the SiC samples, A. M. Khomyakov and A. S. Andreyev for irradiating the samples with electrons, and M. A. Yeremeyev, I. A. Abroyan, and Yu. A. Vodakov for useful discussions. Orig. art. has: 2 figures.

SUB CODE: 20/ SUBM DATE: 20May66/ ORIG REF: 002/ OTH REF: 002

Card 2/2



MAKAROV, V.V.

CA

11E

The antirachitic properties of vetch oats and clover hay.
V.V. Makarov. Problems Animal Husbandry (U.S.S.R) 1938, No. 8,
90-3.--In compounding a winter ration for young colts the quantity
of clover or vetch-oat hay must not exceed 5% of the feed, calcd.
on starch equivs. The antirachitic properties of hay are discussed.

S.A. Barjola

MAKAROV, V. V.

MAKAROV, V. V. -- "Cold-Water Retting of Flax," Latvian Agricultural Academy, 1948 (Dissertation for the Degree of Candidate of Agricultural Sciences)

SO: Izvestiya Ak. Nauk Latviyskoy SSR, No. 9, Sept., 1955

MAKARCV, V. V.

Pervichnaya Obrabotka L'na. (Primary working of Flax)
Moskva, Sel'khozgiz, 1950 174 P. Illus., Tables, Diagrs.
At Head of Title: Uchebniki I Uchebnyye Posobiya Dlya
Podgotovki Sel'skokhozyaystvennykh Kadrov Massovoy Kvalifikatsii.

So: N/5
729.15
.M2

MAKAROV, V.V., kandidat sel'skokhozyaystvennykh nauk.

Changes in the physicochemical properties of flax straw when converted into bast and bast into fiber. Dokl. Akad. sel'khos. 22 no.4:8-9 '57. (MLRA 10:6)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut l'na. Predstavlena akademikom I.V. Yakushkinym.

(Flax)

MAKAROV, V.V., kandidat sel'skokhozyaystvennykh nauk.

Obtaining fiver from flax bast through steaming. Dokl.Akad.sel'khoz. 22 no.1:7-10 '57. (MLRA 10:2)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut l'na. Predstavlena akademikom I.S.Varyntsyanom.
(Fibers) (Flax)

MAKAROV, V.V., kand.sel'skokhozyaystvennykh nauk

Drying of retted straw. Tekst.prom. 18 no.4:7-8 Ap '58.
(Retting) (MIRA 11:4)

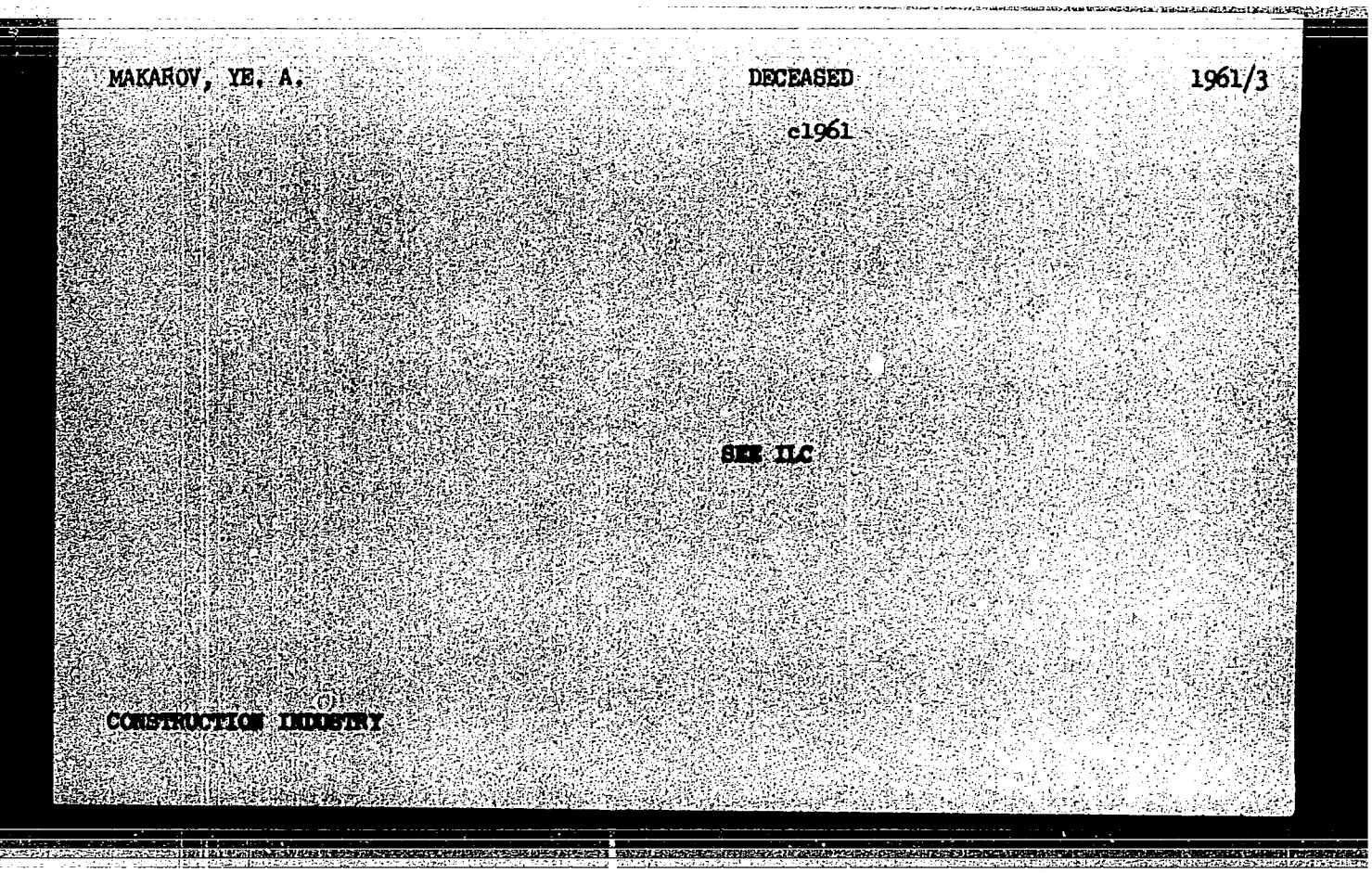
MAKAROV, V.Ya.

At the refuse sorting plant in Prague. Gor.khoz.Mosk. 30 no.11:34-35 N '56. (MLRA 10:3)
(Prague--Refuse destructors)

MAKAROV, Ye., nauchnyy sotrudnik

For precise measurements. Nauka i zhizn' 30 no.3:94-96 Mr '63.
(MIRA 16:5)

1. Institut khimicheskoy fiziki AN SSSR.
(Mossbauer effect) (Electronic measurements)



ZHIVILOVA, L.M., kand.tekhn.nauk; LYUTS'KO, V.V., tekhnik; NEBOL'SINA, T.V., tekhnik; SHKULIN, N.A., inzh.; MAKAROV, Ye.A., inzh.

Automatic device for indicating water hardness. Elek.sta. 32 no.4:40-44 Ap '61. (MIRA 14:7)
(Feed-water purification)
(Chemical engineering—Equipment and supplies)

KOZHEVNIKOV, N.I.; MAKAROVA, Ye.A.; SITNIK, G.F.

Effect of atmospheric pressure on the half-width of oxygen lines in the 1.27 μ band. Astron.zhur. 40 no.6:1095-1100 N-D '63. (MIRA 16:12)

1. Gosudarstvennyy astronomicheskiy institut im. P.K.Shternberga.

ACC NR: AP7005857 SOURCE CODE: UR/0181/66/008/012/3636/3637

AUTHOR: Makarov, Ye. A.

ORG: Institute of Physics of Semiconductors, SO AN SSSR, Novosibirsk (Institut fiziki poluprovodnikov SO AN SSSR)

TITLE: On the piezoresistance constant π_{44} in n-silicon

SOURCE: Fizika tverdogo tela, v. 8, no. 12, 1966, 3636-3637

TOPIC TAGS: piezoelectric effect, silicon semiconductor, resistivity, elastic deformation

ABSTRACT: Using a formula given by J. C. Hensel et al. (Phys. Rev. v. 138, 225, 1965) for the spectrum of the conduction electrons in undeformed silicon, the author derives an equation for the piezoresistance constant for n-silicon in terms of the specific resistivity and the deformation. Using published numerical values for the constants in the formula, he then obtains a value of -12.9×10^{-12} cm^2/dyn for the piezoresistance constant, showing that it is not equal to zero, as proposed elsewhere, and is larger than in n-type III-V compounds. It is concluded that the value of π_{44} is due to the deformation of the equal-energy surfaces near the Δ_1 point. The author thanks A. F. Kravchenko for guidance of the work. Orig. art. has: 4 formulas.

SUB CODE: 20/ SUBM DATE: 28Mar66/ ORIG REF: 002/ OTH REF: 003

Card 1/1

KOVALENKO, F.N., inzh.; MAKAROV, Ye.F., inzh.; SKIRA, I.V., inzh.

Protection and automatic equipment of a transformer equipped with a short circuit and circuit breaker for 110 kv. Elek. sta. 29 no.7: 84-85 Jl '58. (MIRA 11:10)
(Electric transformers)

MAKAROV, YE. F.

"Measurement of the Effective Cross Section of the $Be^9(n,2n)Be^8$ Reaction for Fission Neutrons," by B. G. Dubovskiy, A. V. Kamayev, and Ye. F. Makarov, Atomnaya Energiya, Vol 2, No 3, Mar 57, pp 279-281

Cros sections of the (n,2n), (γ,n), and (n,α) reactions in Be^9 were measured. The energy spectra of emitted neutrons in the (n,2n) and (γ,n) reactions were studied in their relation to the primary neutron and γ-ray energy spectra.

It was found that the main contribution to neutron multiplication was provided by fission neutrons with energies greater than 4 Mev.

The importance of the study to reactor calculations, for the case when beryllium is used as moderator, is noted. (U)

SUM.1360

SOV/58-59-8-17390

Translated from: Referativnyy Zhurnal Fizika, 1959, Nr 8, p 63 (USSR)

AUTHORS: Makarov, Ye.F., Samoylova, Z.D.

TITLE: A Measurement of the Cross Section for Xe^{135} (n,γ) Xe^{136} Reactions for the Neutron Spectrum of an Atomic Power-Plant Reactor

PERIODICAL: In the symposium: Fiz. i teplotekhn. reaktorov. Moscow, Atomizdat, 1958, pp112 - 122

ABSTRACT: By means of the "burning-out" method the average value of the cross section for a σ_n (T) reaction of Xe^{135} (n,γ) Xe^{136} was measured for the neutron spectrum of an atomic power-plant reactor. The following quantities were measured in the experiment: the ratio of the activities of two samples containing Xe^{135}, one of which had been bombarded with thermal neutrons in the reactor; the absolute density of the beam of neutrons; and the temperature of the neutron gas at the site of bombardment. The Xe^{135} emanated from uranic oxide (a 75% concentration of U^{235}), which was bombarded with thermal neutrons. Two quartz ampoules of known volumes were filled with a mixture of chemically pure helium and Xe^{135}, and one of them was bombarded in the reactor at

Card 1/2

SOV/58-59-8-17390

A Measurement of the Cross Section for Xe^{135} (n,γ) Xe^{136} Reactions for the Neutron Spectrum of an Atomic Power-Plant Reactor

a site corresponding to the maximum density of the thermal neutrons. Subsequently the Xe^{135} activity in both samples was measured in a special apparatus. The influence of the interferent activity of Xe^{133} was eliminated with the aid of an aluminum absorber. The determination of the absolute density of the neutron beam was effected by measuring the absolute activity of a gold sample, bombarded at the same site as the ampoule containing the Xe^{135}. The temperature of the neutron gas was estimated from the measured value of the most probable velocity of the neutrons, and was verified by means of measurements of the temperature of the medium. The estimated value of the average magnitude of the cross section is equal to σ_n (800 $\pm$ 50°K) = (1.75 $\pm$ 0.15). 10^6 barn. The theoretical estimate of σ_n for T = 800°K, based on resonance parameters, gives for the parallel and antiparallel orientation of the neutron spin and of the moment of the target nucleus values of $1.55 \cdot 10^6$ and $1.33 \cdot 10^6$ barn respectively. Comparing these magnitudes with those measured experimentally, the authors come to the conclusion that resonance capture occurs principally at the parallel orientation of the neutron spin and nuclear moment of Xe^{135}.

I.N.S.

Card 2/2

89 -1-9/18

AUTHORS: Makarov, Ye.F., Samoylova, Z.D.

TITLE: The Measuring of the Xe-135(n,γ) Xe-136 Cross Section for the Neutron Spectrum of the Reactor of the Atomic Power Plant (Izmereniye secheniya reaktsii Xe-135(n,γ) Xe-136 dlya spektra neytronov reaktora atomnoy elektrostantsii).

PERIODICAL: Physics and Thermotechniques of Reactors (Fizika i teplotekhnika reaktorov), Supplement Nr 1 to Atomnaya energiya, 1958, (USSR)

ABSTRACT: The reaction cross section was determined by the "burn-up" method. This method offers the following advantages:

a) The initial activity of Xe-135, with which it is necessary to operate, is less than 10^{-6} C. In other methods activities of 10 - 500 C are necessary.
b) The relative character requires no absolute determination of the Xe-135 atoms.
c) The average value $\sigma_r(T)$ is obtained direct.
d) In a neutron flux of $\sim 10^{13}$ n/cm^2.sec a measuring accuracy of $\pm$ 5% is attained.

Card 1/2

The Measuring of the Xe-135(n,γ) Xe-136 Cross Section for the Neutron Spectrum of the Reactor of the Atomic Power Plant

89 -1-9/18

Disadvantages of the method:

a) It is impossible to determine the dependence of the cross section on neutron energy.
b) For the measuring of $\sigma_r(T)$ it is necessary to know the absolute neutron current density and the temperature of the neutron gas.

The cross section was determined as being:

$$\sigma = (1.75 \pm 0.15).10^6 \text{ b for } T = 800 \pm 50^\circ \text{ K.}$$

There are 4 figures, and 11 references, 2 of which are Slavic.

AVAILABLE: Library of Congress

Card 2/2 1. Neutron cross sections-Determination (Radioactive)-Neutron cross sections 2. Xenon isotopes 3. Neutron spectroscopy

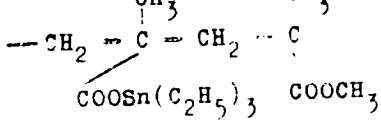
S/056/62/042/002/051/055
B108/B138

AUTHORS: Bryukhanov, V. A., Gol'danskiy, V. I., Delyagin, N. N., Makarov, Ye. F., Shpinel', V. S.

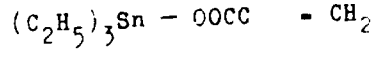
TITLE. Mössbauer effect in tin-containing polymer

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 42 no. 2, 1962, 637-639

TEXT: Mössbauer effect in polymers is very weak because polymers usually contain only light nuclei and have no distinct crystal structure. Successful studies were made, however, with the tin-organic compound



which is the copolymer



Card 1/3

S/056/62/042/002/051/055
B108/B138

Mössbauer effect in tin- .

in methylmetacrylate. The tin content in the transparent solid (1.2 g/cm^3) specimens was 30% by weight. The synthesis of the polymer was described earlier by M. F. Shostakovskiy et al. (ZhPKh, 31, 1434, 1958). The resonance absorption spectra (relative counting rate versus velocity of absorber relative to gamma source) have two equal lines at 0 ± 0.2 and 3.0 ± 0.2 mm/sec with a width of 0.8 mm/sec each. This width is somewhat greater than twice the natural width of the excited (23.8 kev) level of Sn^{119}. It is supposed that the observed spectrum is due to quadrupole interaction of excited S^{119} nuclei with the nonuniform electric field around the tin atoms in the molecules of the polymer. Another way of interpreting the splitting of the lines is to assume two states of the tin in the polymer molecules, which differ in the density of the orbitals at the site of the nucleus. The resonance absorption probability for gamma quanta without recoil (f') was 0.04 at 77°K and about 0.017 at 195°K. The possibility of observing the Mössbauer effect on impurity nuclei in solid solutions is pointed out. D. A. Kochkin and Yu. M. Kagan are thanked for help and discussions. There are 1 figure and 7 references. 6 Soviet and 1 non-Soviet.

Card 2/3

Mössbauer effect in tin- ...

ASSOCIATION: Institut khimicheskoy fiziki Akademii nauk SSSR (Institute of Chemical Physics of the Academy of Sciences USSR)
Institut yadernoy fiziki Moskovskogo gosudarstvennogo universiteta (Institute of Nuclear Physics of Moscow State University)

SUBMITTED: December 13, 1961

Card 3/3

B102,B104

AUTHOR: Bryukhanov, V. A., Gol'danskiy, V. I., Dolgoplosk, [illegible], Korytko, L. A., Makarov, Ye. F., Suzdalev, I. P., [illegible],

TITLE: [illegible] of Mössbauer spectra of [illegible] and the role of the nearest chemical [illegible] effect

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. [illegible], no. 2(8), 1962, 448-452

TEXT: In continuation of their studies on the Mössbauer effect in organo-tin compounds (ZhETF, 42, 937, 1962), the authors determined a Mössbauer effect in the resonance absorption of 23.8-kev gamma-rays of Sn^{119} nuclei. Many examples, e.g. $Sn(C_6H_5)_4$, $SnCl_4$ on the one hand, and $Sn(C_6H_5)_iCl_{4-i}$ (i=1,2,3) on the other, show that in compounds with identical substituted groups the Mössbauer lines appear as the usual singlet, whereas with different substituted groups (R_nSnX_{4-n}) a resolved doublet occurs. The two lines differ in width and in [illegible]

Card 1/2

Peculiarities of Mössbauer spectra...

on the ratio of R to X. In amorphous media, e.g. in stannic [illegible] the Mössbauer effect was observed for the first time. The [illegible] was the following: SnO_2-3.1,%; SiO_2-61.3,%; B_2O_3-[illegible], Al_2O_3-[illegible], Na_2O-7.3,%. The spectra of crystalline $Sn(C_6H_5)_2$ and its solid [illegible] polymethylmethacrylate and of crystalline $Sn(C_6H_5)_2Cl_2$ and of its [illegible] solution in dichloroethane are identical. Some of the [illegible] indicate that the decisive factor determining the shape of the [illegible] spectra (isomer shift and quadrupole splitting) are the electrons closest to the tin nucleus. There are 3 figures and 1 table.

ASSOCIATION: Institut khimicheskoy fiziki Akademii nauk SSSR (Institute of Chemical Physics of the Academy of Sciences USSR)

SUBMITTED: April 12, 1962

Card 2/2

MAKAROV, YE. F.

S/020/62/147/001/018/022
B101/B144

AUTHORS: Gol'danskiy, V. I., Corresponding Member AS USSR, Gorodinskiy, G. M., Karyagin, S. V., Korytko, L. A., Krishanskiy, L. M., Makarov, Ye. F., Susdalev, I. P., Khrapov, V. V.

TITLE: Investigation into the Mössbauer effect in tin compounds

PERIODICAL: Akademiya nauk SSSR. Doklady, v. 147, no. 1, 1962, 127 - 130

TEXT: The Mössbauer effect in the symmetrical compounds $SnCl_4$, $SnBr_4$, SnI_4, $Sn(C_6H_5)_4$ and SnO_2 and in the asymmetrical compounds Ph_3SnHal (Ph = C_6H_5, Hal = F, Cl, Br, I) was studied using an apparatus in which the absorber moved uniformly with respect to the source and an apparatus with sinusoidal movement. β-Sn or SnO_2 were used as sources of the 23.8-kev gamma-quanta (Sn^{119m}). With the symmetrical compounds the chemical shift δ of the absorber lines with respect to β-Sn, expressed in mm/sec (1mm/sec = $7.9 \cdot 10^{-8}$ ev), was a linear function of the electronegativity of the atoms bound to Sn. The equation $\delta = 1.6 \cdot 10^{-29}\left[|\psi_s(0)|^2_{absorb} - |\psi_s(0)|^2_{emitt}\right]\Delta R/R$ ev

Card 1/5

Investigation into the...

S/020/62/147/001/018/022
B101/B144

given by A. J. F. Boyle, D. S. P. Bunbury, C. Edwards (Proc. Phys. Soc., 79, 416(1962)) and the data on the ionicity of the Sn-Hal bonds, obtained by the method of A. L. Schawlow (J. Chem. Phys., 22, 1211 (1954)) and those of M. M. Yakshin et al. (ZhNKh, 6, 2425(1961)) on refraction and dielectric constant give $\delta_{ion} = -(5.6 \pm 0.5)$ mm/sec $= -(4.4 \pm 0.4)\cdot 10^{-7}$ ev, $\Delta R/R(Sn^{119}) = +(1.9 \pm 0.2)\cdot 10^{-4}$ for a completely ionised bond. These data enable $|\psi_{5s}(0)|^2$ to be determined directly from δ. In the asymmetrical compounds, asymmetrical doublets were observed (Fig. 2) similar to those found by Boyle et al. in SnF_4. The asymmetry was found also in dissolved compounds and cannot be explained by a random orientation of the crystals in the direction of the gamma quanta or by ferromagnetic or paramagnetic impurities. From the equation

$$\frac{\sigma_{3/2\,полн}}{\sigma_{1/2\,полн}} = \frac{\int_{-1}^{+1}[2\sqrt{5}P_2(\cos\theta) + P_0(\cos\theta)]f(\cos\theta)\,d\cos\theta}{\int_{-1}^{+1}[2\sqrt{5}P_2(\cos\theta) - P_0(\cos\theta)]f(\cos\theta)\,d\cos\theta}, \qquad (3)$$

where the subscript полн = total, $P_L(\cos\vartheta)$ is the normalised Legendre

Card 2/5

Investigation into the...

polynomial, $f(\cos\vartheta) = \sum a_k P_k(\cos\vartheta)$ is the factor determining the intensity of the Mössbauer line, a_k the decay coefficient, it follows that if $\sigma_{13\ tot}/\sigma_{11\ tot} = (2\sqrt{5}a_0 + a_2)/(2\sqrt{5}a_0 - a_2) \neq 1$ (with $a_2 \neq 0$) and $-2\sqrt{5} < a_2/a_0 < 2\sqrt{5}$, each of the peaks of the Mössbauer doublet may become higher than the other one according to the ratio a_0/a_2. This ratio can be determined experimentally. Assuming a quadrupole splitting of the Mössbauer line in SnF_4 and Ph_3SnHal, $q = 6.9 \cdot 10^{15} x$ v/cm^2 is obtained where $q = \partial^2 v/\partial z^2$ is the gradient of the electric field in the region of the Sn^{119} nucleus, and x is the degree of ionisation of the bond. For Ph_3SnHal $x \simeq 0.55$ with Hal = I; $x \simeq 0.7$ with Hal = Br, Cl and $x \simeq 1$ with Hal = F.. Another possible interpretation of the asymmetrical splitting might be the different hybridisation of the sp^3d^2 bonds. In order to explain this problem it is suggested that the effective charges of the halogen and tin atoms be determined directly. When an equimolecular mixture of $SnPh_4$ and SnI_4 was irradiated with 1.6-Mev electrons the Mössbauer spectrum was

Card 3/5

Investigation into the...

observed to be greatly changed through the spectra of various disproportionation products Ph_iSnI_{4-i} being superimposed. Hence it is concluded that the Mossbauer effect can be used not only to study the chemical structure but also to solve problems of chemical kinetics and radiation chemistry. There are 2 figures.

ASSOCIATION: Institut khimicheskoy fiziki Akademii nauk SSSR (Institute of Chemical Physics of the Academy of Sciences USSR)

SUBMITTED: July 21, 1962

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S/056/63/044/002/054/065
B163/B186

AUTHORS: Gol'danskiy, V. I., Makarov, Ye. F., Khrapov, V. V.

TITLE: The difference of the two peaks in the quadrupole splitting of Mössbauer spectra

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 44, no. 2, 1963, 732-739

TEXT: In stanno-organic compounds such as triphenylchlorostannane $Sn(C_6H_5)_3Cl$, an asymmetry in the peaks of the doublet splitting of the Mössbauer spectra was found. It is shown that the quadrupole splitting of the Mössbauer spectra of isotropic polycrystalline specimens generally gives peaks of different shape and height, and that these peaks are equal only in the special case of the isotropic Mössbauer effect. This means that the asymmetry can be explained without assuming the presence of two different chemical compounds, and that it occurs even in isotropic polycrystalline specimens as a direct consequence of the anisotropy of the Mössbauer effect. In order to test this view the asymmetry of the two Mössbauer peaks was studied in relation to the degree of orientation of

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The difference of the two peaks in ...

triphenylchlorostannane crystals and for two different angles of orientation of the specimen with respect to the direction of the beam of γ quanta. Cryoscopic determination of the molecular weight in benzene and camphor showed that there was no molecular association. The measurements were made at 78°K with the IKhF AN SSSR instrument with a SnO_2 source. Isotropic specimens were prepared as layers of finely ground powder on an aluminum substrate. Other anisotropic specimens were prepared by melting and subsequent slow cooling on an aluminum substrate, in order to obtain coarsely crystalline lamellae, preferentially oriented along the substrate. The isotropic as well as the anisotropic specimens were oriented at angles of 90° and 45°, respectively, with respect to the beam of γ quanta. With the isotropic specimen, the asymmetric spectrum was the same for both angles. At 90°, the shape of the spectrum of the anisotropic specimen is different from that of the isotropic specimen. This excludes the possibility of an explanation of the difference of the two peaks by the assumption that singlet lines of two different chemical compounds are superimposed. If the anisotropic specimen is turned to 45°, there is again a change in the spectrum. The experimental results

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are considered to give evidence for the view stated above. There is 1 figure.

ASSOCIATION: Institut khimicheskoy fiziki Akademii nauk SSSR (Institute of Chemical Physics of the Academy of Sciences USSR)

SUBMITTED: November 12, 1962

Card 3/3

AUTHOR: Gol'danskiy, V. I. (Corr. member, AN SSSR); Makarov, Ye. F.; Stukan, R. A.; Trukhtanov, V. A.; Khrapov, V. V.

TITLE: Analysis of the structure of polymeric organo-tin oxides R_2SnO by Mossbauer effect

SOURCE: AN SSSR. Doklady", v. 151, no. 2, 1963, 357-360

TOPIC TAGS: Sn, Mossbauer effect

ABSTRACT: New assumptions are proposed on the structure of R_2SnO organo-tin molecules, based on the presentation of the results of the Mossbauer effect, investigations in these oxides and related compounds. The Mossbauer spectra for all these compounds consist of two lines. Also the probability of the Mossbauer effect for some R_2SnO organo-tin oxides is investigated. "In conclusion, the authors express their sincere gratitude to Ye. N. Panov, O. A. Filippova, and N. I. Sheverdina for submitting preparations of tin-organic compounds." Orig. art. has: 2 figures, 5 formulas, and 1 table.

Card 1/1 Inst of Chemical Physics, Academy of Sci.

ABLOV, A.V., akademik; BELOZERSKIY, G.N.; GOL'DANSKIY, V.I.; MAKAROV, Ye.F.; TRUKHTANOV, V.A.; KHRAPOV, V.V.

Mössbauer's spectra of complex compounds of iron with diacetylthiosemicarbazone oxime. Dokl. AN SSSR 151 no.6:1352-1355 Ag '63. (MIRA 16:10)

1. Institut khimicheskoy fiziki AN SSSR i Institut khimii AN Moldavskoy SSR. 2. AN Moldavskoy SSR (for Ablov). 3. Chlen-korrespondent AN SSSR (for Gol'danskiy).

ACCESSION NR: AP4036726

S/0020/64/156/002/0400/0403

AUTHOR: Gol'danskiy, V. I. (Corresponding member); Makarov, Ye. F.; Stukan, R. A.; Sumarokova, T. N.; Trukhtanov, V. A.; Khrapov, V. V.

TITLE: Characteristics of Mossbauer effect for tin compounds with a coordinate number six

SOURCE: AN SSSR. Doklady*, v. 156, no. 2, 1964, 400-403

TOPIC TAGS: Mossbauer effect, gamma fluorescence, Debye Vallerovskiy factor, Mossbauerian atom, polymer crystal, crosslink bond, quadrupolar splitting, chemical displacement, tin compound, ionicity, crystal structure

ABSTRACT: The authors demonstrate that resonant γ-fluorescence without yield (the Debye-Vallerovskiy factor) and the character of the temperature curve essentially depend on the crystal-structure relationship of Mossbauerian atoms. Two tables show the amount of chemical displacement in the compounds investigated and the af' quantities for some of these compounds at temperatures of T = 78°K and 300°K. In addition, a probable structure of SnF_4 is illustrated. The strong quadrupolar splitting in the subject problem is explained by the essential differences in the

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ACCESSION NR: AP4036726

degree of sp^2d ionicity of the hybridized tetravalent Sn-F bond, with horizontal F atoms in a basic polymer crystal forming crosslink bonds between Sn and two other ($p_z d_z 2$) SnF-bonds which evidently are ionic. During the migration from SnF_4 to K_2SnF_6 and Cs_2SnF_6, i.e., from the octahedron with a D_{4k} symmetry to O_h with six (sp^3d^2) Sn-F equivalent bonds, the quadrupolar splitting disappeared. Instead, the increase in the degree of molecular symmetry was accompanied by a strong decrease in the Debye-Vallerovskiy factor (especially at room temperature), while the chemical displacement remained constant. Orig. art. has: 2 figures and 2 tables.

ASSOCIATION: Institut khimicheskoy fiziki. Akademii nauk SSSR (Institute of Chemical Physics, Academy of Sciences SSSR)

SUBMITTED: 31Jan64 DATE ACQ: 03Jun64 ENCL: 00

SUB CODE: OC NO REF SOV: 008 OTHER: 002

Card 2/2

ACCESSION NR: [illegible] EWT(m)/EPF(c)/EPR/EWP(j)/EWA(c)/... Pc-4/Pr-4/Ps-4/Peb IJP(c)/

S/0020/64/159/004/0831/0834

AUTHOR: Belov, V. F.; Vishnyakova, T. P.; Makarov, Ye. F.; Paushkin, Ya. M.; Sokol'skaya, T. A.; Stukan, R. A.; Trukhtanov, V. A.; Gol'danskiy, V. I. (Corresponding member AN SSSR)

TITLE: The study of ferrocene copolymers by means of the Moessbauer effect

SOURCE: AN SSSR. Doklady, v. 159, no. 4, 1964, 831-834

TOPIC TAGS: ferrocene copolymers, ferroorganic polymer, Moessbauer effect, polymer crosslinking, gamma absorption spectrum

ABSTRACT: The electronic struct...

ACCESSION NR: AP5002172 S/0032/65/031/001/0061/0065

AUTHORS: Gol'danskiy, V. I.; Makarov, Ye. F.

TITLE: Some possible applications of the Mössbauer effect

SOURCE: Zavodskaya laboratoriya, v. 31, no. 1, 1965, 61-65

TOPIC TAGS: Mossbauer effect, resonance absorption, resonance scattering, gamma absorption, gamma emission, gamma scattering, velocity measurement, low temperature, high pressure effect, vibration measurement

ABSTRACT: This review article outlines in general terms a number of possible applications of the Mössbauer effect. The phenomenon of resonance absorption or scattering of gamma radiation occurs when the recoil energy is completely absorbed in the entire crystals in which the